

IN THE CLAIMS

1. (Currently amended) A binding complex for delivering DNA/RNA into cytoplasm or nucleus, comprising a fusion protein of PTD protein transduction domain (PTD) with one or more homologous or heterologous binding protein having DNA/RNA DNA or RNA binding factor or DNA/RNA DNA or RNA binding domain; a DNA/RNA DNA or RNA binding sequence which is specifically bound to the DNA/RNA DNA or RNA binding factor or DNA/RNA DNA or RNA binding domain; and a DNA/RNA DNA or RNA encoding biological regulator, wherein the biological regulator is a promoter or enhancer that expresses a gene specifically in specific species, tissues, organs or cells.

2. (Original) The binding complex according to claim 1, wherein NLS (Nuclear Localization Sequence) is additionally combined with PTD of fusion protein.

3. (Currently amended) The binding complex according to claim 1, wherein PTD is selected from the group consisting of Mph-1, Sim-2, Tat, R7, VP22, ANTP, [[MTS<]] MTS, Pep-1, and Pep-2.

4. (Cancelled)

5. (Original) The binding complex according to claim 4, wherein the promoter is an inducible promoter or enhancer.

6. (Cancelled)

7. (Currently amended) A method for delivering a biological regulator into eukaryotic or prokaryotic cytoplasm or nucleus, comprising steps:

i) Preparing peptide transducing recombinant expression vector which comprises a DNA encoding PTD protein transduction domain (PTD), a DNA encoding one or more homologous or heterologous binding protein having DNA/RNA DNA or RNA binding

factor or ~~DNA/RNA~~ DNA or RNA binding domain, and expression regulatory sequence operatively bound to the vector;

ii) Obtaining a fusion protein by expression of the vector of step i) in a host cell;

iii) Obtaining binding complex by binding of one or more biological regulators selected from the group consisting of fusion protein of step ii), protein, ~~DNA/RNA~~ DNA or RNA, fat, carbohydrate and chemicals by chemical or physical covalent or non-covalent bond; and

iv) ~~Mixed-culturing~~ Delivering the binding complex of step iii) ~~with cell cultures in vivo or ex vivo~~ into cytoplasm or nucleus through routes including intramuscular, intraperitoneal, intravein, oral, nasal, subcutaneous, intradermal, mucosal or inhalation.

8. (Currently amended) A method for delivering a biological regulator into eukaryotic or prokaryotic cytoplasm or nucleus, comprising steps:

i) Preparing peptide transducing recombinant expression vector which comprises a DNA encoding ~~PTD~~ protein transduction domain (PTD), a DNA encoding one or more homologous or heterologous binding protein having ~~DNA/RNA~~ DNA or RNA binding factor or ~~DNA/RNA~~ DNA or RNA binding domain, and expression regulatory sequence operatively bound to the vector;

ii) Obtaining a fusion protein by expression of the vector of step i) in a host cell;

iii) Preparing a recombinant expression vector which comprises a DNA encoding a biological regulator, a ~~DNA/RNA~~ DNA or RNA binding sequence specifically binding to the ~~DNA/RNA~~ DNA or RNA binding factor or the ~~DNA/RNA~~ DNA or RNA binding domain, and expression regulatory sequence bound operatively to the vector;

iv) Obtaining a binding complex by combining the fusion protein from step ii) with the recombinant expression vector from step iii); and

v) ~~Mixed-culturing~~ Delivering the binding complex of step iv) ~~with cell cultures in vivo or ex vivo~~ into cytoplasm or nucleus through routes including intramuscular, intraperitoneal, intravein, oral, nasal, subcutaneous, intradermal, mucosal or inhalation.

9. (Previously presented) The method according to claim 7, wherein step ii) comprises an additional step combining NLS (Nuclear Localization Sequence) with PTD of fusion protein.

10. (Original) Protein transducing recombinant expression vector, wherein comprises a DNA encoding PTD, a DNA encoding encoding one or more homologous or heterologous binding protein, and expression regulatory sequence bound operatively to the vector.

11. (Currently amended) The binding complex according to claim 2, wherein PTD is selected from the group consisting of Mph-1, Sim-2, Tat, R7, VP22, ANTP, [[MTS<]] MTS, Pep-1, and Pep-2.

12. (Cancelled)

13. (Cancelled)

14. (Previously presented) The method according to claim 8, wherein step ii) comprises an additional step combining NLS (Nuclear Localization Sequence) with PTD of fusion protein.